

**REMARKS**

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 1-56 are pending, of which claims 1, 13, 23, 25, 27, 29, 36, 38, 44, 45, 49, and 52 have been amended, as indicated above.

As a preliminary matter, Applicant submitted an Information Disclosure Statement (IDS) on November 30, 2004, and requests consideration and entry of the materials disclosed therein into the official record of the subject application.

### **Objections to Claims 23 and 24**

The Office advises that claim 24 will be objected to under 37 CFR 1.75 as being a substantial duplicate of claim 23 (*Office Action* p.2). Claim 23 is amended for reasons unrelated to this objection which renders the objection moot, and Applicant respectfully requests that the objection be withdrawn.

## **35 U.S.C. §102 Claim Rejections**

Claims 1, 3-21, 36-37, 41-45, 47-48, and 50-56 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,890,017 to Tulkoff et al. (*Office Action* p.2). Applicant respectfully traverses the rejection. Additionally, Applicant notes that paragraph 3 of the Official Action refers to the Gulick reference, while paragraphs 4-39 of the Official Action refer to Tulkoff. It appears that the Office intended to apply Tulkoff to the above rejected claims, and Applicant responds herein accordingly.

1        Claim 1 recites “dynamically defining a plurality of logical buses in  
2 response to a need associated with receiving the streams of audio wave data, the  
3 logical buses each corresponding to an audio wave data consumer”. The  
4 amendments to claim 1 are supported by at least page 14, lines 1-10 of Applicant’s  
5 Specification.

6        Although Fig. 1 of Tulkoff and the related description may disclose some  
7 type of communications channel between clients (10) and an audio mixer (12),  
8 Tulkoff does not support a §102 rejection of the above feature because Tulkoff  
9 does not disclose dynamically defining logical buses based on needs associated  
10 with receiving the streams of audio wave data. Claim 1 also recites dynamically  
11 deallocating a logical bus when no longer needed to route a stream of audio wave  
12 data, a feature also supported by the same section of Applicant’s specification as  
13 cited above. Tulkoff also does not disclose this feature.

14        Claim 1 also recites “assigning at least one of the multiple streams of audio  
15 wave data to a plurality of the logical buses”. These amendments to claim 1 are  
16 supported by at least Applicant’s Fig. 3 and the related discussion in the  
17 specification on page 12, line 23 through page 13, line 14, which describes the  
18 relationship between, e.g., the channel set 302(1) and the two logical buses 306(1)  
19 and 306(2). The audio data “fans-out” from the channel set 302(1) and is routed to  
20 the two different logical buses 306(1) and 306(2). Fig. 3 also illustrates a similar  
21 relationship between channel set 302(3) and logical buses 306(1), 306(2), and  
22 306(3).

23        Tulkoff does not disclose or fairly teach this type of audio-data-routing  
24 relationship between elements. More particularly, Tulkoff’s various audio  
25

1 processes (10) appear to have a “fan-in” relationship with the audio mixer (12) and  
2 ultimately with the audio device (14) (see Fig. 1, for example). As such, Tulkoff  
3 does not show assigning at least one of the multiple streams of audio wave data to  
4 a plurality of the logical buses, as recited in claim 1.

5 Accordingly, claim 1 along with dependent claims 3-12 are allowable over  
6 Tulkoff for at least the reasons described above and Applicant respectfully  
7 requests that the §102 rejection be withdrawn.

8

9       Claim 13 recites “a software component that dynamically defines logical  
10 buses in response to a need associated with receiving the streams of audio wave  
11 data and that deallocates at least one of the logical buses when no longer needed,  
12 the logical buses corresponding respectively to the plurality of audio wave data  
13 consumers”.

14       As described above in the response to the rejection of claim 1, Tulkoff does  
15 not show or disclose that logical buses are dynamically defined in response to a  
16 need associated with receiving streams of audio wave data, or that a logical bus is  
17 deallocated when no longer needed, as recited in claim 13. Accordingly, claim 13  
18 along with dependent claims 14-21 are allowable over Tulkoff for at least these  
19 reasons and the §102 rejection should be withdrawn.

20

21       Claim 36 recites “a plurality of logical bus objects configured to receive  
22 audio wave data, wherein each logical bus object corresponds to an audio wave  
23 data consumer, wherein each logical bus object is dynamically allocated in  
24 response to a need associated with receiving the audio wave data, and wherein at

1       least one of the logical bus objects can be dynamically deallocated when no longer  
2       needed to route a stream of audio wave data".

3           As described above in the response to the rejection of claim 1, Tulkoff does  
4       not show or disclose that a logical bus object is dynamically allocated in response  
5       to a need associated with receiving audio wave data, or that a logical bus object is  
6       dynamically deallocated when no longer needed to route a stream of audio wave  
7       data, as recited in claim 36. Accordingly, claim 36 along with dependent claims  
8       37 and 41-43 are allowable over Tulkoff for at least these reasons and the §102  
9       rejection should be withdrawn.

10           Claim 44 recites that at least one stream of audio wave data is routed to a  
11       plurality of different logical buses". As described above in the response to the  
12       rejection of claim 1, Tulkoff's various audio processes (10) appear to have a  
13       "fan-in" relationship with the audio mixer (12) and ultimately with the audio  
14       device (14) (*see* Tulkoff Fig. 1, for example). As such, Tulkoff does not show that  
15       a stream of audio wave data can be routed to plurality of different logical buses  
16       (e.g., in a "fan-out" relationship), as recited in claim 44.

17           Accordingly, claim 44 is allowable over Tulkoff for at least these reasons  
18       and the §102 rejection should be withdrawn.

20           Claim 45 recites "dynamically providing at least one logical bus component  
21       in response to a need associated with receiving the streams of audio wave data, the  
22       logical buses configured to route the one or more streams of audio wave data to  
23       the audio wave data consumer component", and "dynamically deallocating at least  
24

1 one of the logical buses when no longer needed to route a stream of audio wave  
2 data".  
3

4 As described above in the response to the rejection of claim 1, Tulkoff does  
5 not show or disclose dynamically providing a logical bus component in response  
6 to a need associated with receiving streams of audio wave data, or dynamically  
7 deallocating a logical bus when no longer needed to route a stream of audio wave  
8 data, as recited in claim 45. Accordingly, claim 45 along with dependent claims  
9 47-48 and 50-51 are allowable over Tulkoff for at least these reasons and the §102  
rejection should be withdrawn.  
10

11 Claim 52 recites "dynamically defining logical buses in response to a need  
12 associated with receiving the streams of audio wave data, the logical buses each  
13 corresponding to an audio wave data consumer", "assigning at least one of the  
14 multiple streams of audio wave data to a plurality of the logical buses", and  
15 "dynamically deallocating at least one of the logical buses when no longer  
16 needed".  
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18 As described above in the response to the rejection of claim 1, Tulkoff does  
19 not show or disclose any of these features recited in claim 52. Accordingly,  
claim 52 along with dependent claims 53-56 are allowable over Tulkoff for at least  
these reasons and the §102 rejection should be withdrawn.  
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1                   **35 U.S.C. §103 Claim Rejections**

2                   Claims 2, 22-30, 32-35, 38, 40, 46, and 49 are rejected under 35 U.S.C.  
3                   §103(a) as being obvious over Tulkoff in view of U.S. Patent No. 5,717,154, to  
4                   Gulick (*Office Action* p.14). Applicant respectfully traverses the rejection.

5                   Claims 31 and 39 are rejected under 35 U.S.C. §103(a) as being obvious  
6                   over Tulkoff in view of Gulick, and further in view of U.S. Patent No. 6,100,461  
7                   to Hewitt (*Office Action* p.21). Applicant respectfully traverses the rejection.

8

9                   Claim 2 is allowable by virtue of its dependency upon claim 1 which is  
10                  allowable over Tulkoff for at least the reasons described above in response to the  
11                  §102 rejection of claim 1. Claim 2 is also allowable over the Tulkoff-Gulick  
12                  combination because Gulick does not address the deficiencies of Tulkoff as  
13                  described above in the response to the rejection of claim 1. Accordingly, the §103  
14                  rejection should be withdrawn.

15

16                  Claims 22-24 are allowable by virtue of their dependency upon claim 13  
17                  which is allowable over Tulkoff for at least the reasons described above in  
18                  response to the §102 rejection of claim 13. Claims 22-24 are also allowable over  
19                  the Tulkoff-Gulick combination because Gulick does not address the deficiencies  
20                  of Tulkoff as described above in the response to the rejection of claim 13.

21                  Additionally, claim 23 recites that “the sources include a plurality of  
22                  synthesizers that generate the one or more streams of audio wave data, wherein at  
23                  least one of the synthesizers generates a plurality of outputs, and wherein  
24                  respective ones of the outputs are provided to different respective logical buses”.

1 Tulkoff and/or Gulick do not teach or suggest a synthesizer that generates a  
2 plurality of outputs that are provided to different respective logical buses, as  
3 recited in claim 23. As described above in the response to the §102 rejection of  
4 claim 1, Tulkoff does not fairly teach a “fan-out” type of audio-data-routing  
5 relationship between elements, and Gulick is not cited for this feature.

6 Accordingly, claim 23 is also allowable over the Tulkoff-Gulick  
7 combination for at least these reasons and Applicant respectfully requests that the  
8 §103 rejection be withdrawn.

9  
10 Claim 25 recites an audio generation system comprising “a software  
11 component that defines a plurality of logical buses, an individual logical bus  
12 configured to correspond to an audio wave data consumer, receive one or more of  
13 the streams of audio wave data, and route the one or more streams of audio wave  
14 data to the audio wave data consumer”, and “wherein the synthesizer is configured  
15 to route at least one of the streams of audio wave data to different ones of the  
16 logical buses.”

17 Tulkoff and/or Gulick do not teach or suggest a synthesizer configured to  
18 route a stream of audio wave data to different ones of the logical buses, as recited  
19 in claim 25. As described above in the response to the §102 rejection of claim 1,  
20 Tulkoff does not fairly teach a “fan-out” type of audio-data-routing relationship  
21 between elements, and Gulick is not cited for this feature.

22 Accordingly, claim 25 is allowable over the Tulkoff-Gulick combination  
23 for at least these reasons and the §103 rejection should be withdrawn.

1       Claims 26-31 and 32-35 are allowable by virtue of their dependency upon  
2 claim 25. Additionally, some or all of claims 26-30 and 32-35 are allowable over  
3 the Tulkoff-Gulick combination or Tulkoff-Gulick-Hewitt combination for  
4 independent reasons. For example:

5       Claim 27 recites that “the software component is configured to define the  
6 logical buses dynamically in response to a need associated with receiving the  
7 streams of audio wave data, and is further configured to dynamically deallocate at  
8 least one of the logical buses when no longer needed”.

9       As described above in the §102 response to the rejection of claim 1, Tulkoff  
10 does not show a software component to define logical buses dynamically in  
11 response to a need associated with receiving streams of audio wave data, or that  
12 the software component can dynamically deallocate at least one of the logical  
13 buses when no longer needed, as recited in claim 27. Further, Gulick is not cited  
14 for this feature. Accordingly, claim 27 is allowable over the Tulkoff-Gulick  
15 combination for at least these reasons and the §103 rejection should be withdrawn.

16       Claim 28 recites that “the synthesizer has a channel that generates a stream  
17 of audio wave data and that is configurable to route the stream of audio wave data  
18 to a plurality of the logical buses”. Tulkoff and/or Gulick do not teach or suggest  
19 that a synthesizer has a channel that is configurable to route a stream of audio  
20 wave data to a plurality of the logical buses, as recited in claim 28. As described  
21 above in the response to the §102 rejection of claim 1, Tulkoff does not fairly  
22 teach a “fan-out” type of audio-data-routing relationship between elements, and  
23 Gulick is not cited for this feature. Accordingly, claim 28 is allowable over the

1 Tulkoff-Gulick combination for at least these reasons and the §103 rejection  
2 should be withdrawn.  
3

4 Claims 38 and 40 are allowable by virtue of their dependency upon  
5 claim 36 which is allowable over Tulkoff for at least the reasons described above  
6 in response to the §102 rejection of claim 36. Claims 38 and 40 are also allowable  
7 over the Tulkoff-Gulick combination because Gulick does not address the  
8 deficiencies of Tulkoff as described above in the response to the rejection of  
9 claim 36.

10 Additionally, claim 38 recites that “at least one of the streams of audio  
11 wave data is provided to different respective logical buses”. As described above  
12 in the response to the rejection of claims 25 and 28, Tulkoff and/or Gulick do not  
13 teach or suggest that a stream of audio wave data is provided to different  
14 respective logical buses, as recited in claim 38. Accordingly, claim 38 is also  
15 allowable over the Tulkoff-Gulick combination for at least these reasons and the  
16 §103 rejection should be withdrawn.

17  
18 Claim 39 is allowable by virtue of its dependency upon claim 36 which is  
19 allowable over Tulkoff for at least the reasons described above in response to the  
20 §102 rejection of claim 36. Claim 39 is also allowable over the  
21 Tulkoff-Gulick-Hewitt combination because neither Gulick nor Hewitt addresses  
22 the deficiencies of Tulkoff as described above in the response to the rejection of  
23 claim 36.

1           Claims 46 and 49 are allowable by virtue of their dependency upon  
2 claim 45 which is allowable over Tulkoff for at least the reasons described above  
3 in response to the §102 rejection of claim 45. Claims 46 and 49 are also allowable  
4 over the Tulkoff-Gulick combination because Gulick does not address the  
5 deficiencies of Tulkoff as described above in the response to the rejection of  
6 claim 45.

7

**Conclusion**

8           Pending claims 1-56 are in condition for allowance. Applicant respectfully  
9 requests reconsideration and issuance of the subject application. If any issues  
10 remain that preclude issuance of this application, the Examiner is urged to contact  
11 the undersigned attorney before issuing a subsequent Action.

12

13           Respectfully Submitted,

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15           Dated: March 24, 2005

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